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SHEWAREGED, BETELHEM	

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Paul A. Leipold
Patent Legal Staff
Eastman Kodak Company
343 State Street
Rochester, NY 14650-2201

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/795,836	Applicant(s) YAU ET AL.	
	Examiner Betelhem Shewareged	Art Unit 1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-9,11,13,15-24,26 and 27 is/are pending in the application.
- 4a) Of the above claim(s) 26 and 27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-9,11,13 and 15-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's response filed on 4/26/2007 has been fully considered. Claims 1, 3 and 22 are amended, claims 2, 4, 10, 12, 14 and 25 are canceled, and claims 1, 3, 5-9, 11, 13, 15-24, 26 and 27 are pending. (NOTE: Claims 26 and 27 are withdrawn from consideration as non-elected invention).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3, 5-9, 13 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gallo et al. (US 2003/0107636 A1), as evidenced by Lawrence et al. (US 6,454,404 B1), in view of Landry-Coltrain et al. (US 2003/0138608 A1).

4. Gallo discloses an ink jet recording element comprising a substrate and a porous image receiving layer of encapsulated organic particles and water insoluble polymeric particles (abstract). The encapsulated organic particles are equivalent to the claimed second type of hydrophobic polymer particles and the water insoluble polymeric particles are equivalent to the claimed first type of hydrophobic polymer particles. The T_g of the encapsulated organic polymers is less than 100 degree C [0030], and the

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particles are contained in the image receiving layer in an amount of up to 50% by wt of the image receiving layer [0050]. The particle size of the water insoluble polymeric particles is 10-500nm [0042], and the particles are contained in the image receiving layer in an amount of 5-30% by wt of the image receiving layer [0051]. Examples of the water insoluble polymeric particles are disclosed in US patent application ser. No. 09/770,128 [0037], which is now patented as Lawrence et al. US 6,454,404 B1.

Lawrence discloses that the Tg of the water insoluble polymeric particles is 135-136 degree C (col. 8, line 32 of Lawrence). The thickness of the image receiving layer may range from 1-60um [0062]. The image receiving layer may comprise crosslinkers [0064], and UV absorbers [0065]. The substrate comprises paper or polymer film [0056]. The ink jet recording element further comprises a base layer [0054].

5. With respect to the pore volume, the experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. *In re Aller*, 105 USPQ 233. One of ordinary skill in the art would have been motivated to adjust the pore volume of the image receiving layer in order to optimize the ink-absorbing properties of the layer. A prima facie case of obviousness may be rebutted, however, where the results of the optimizing variable, which is known to be result-effective, are unexpectedly good. *In re Boesch and Slaney*, 205 USPQ 215.

6. Gallo does not teach that the base layer comprises gelatin as recited in the claimed invention.

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7. Landry-Coltrain teaches an ink jet recording element comprising a support and at least two ink receiving layers (abstract and [0070]). The recording element further comprises a base layer having a highly swellable polymers such as gelatin [0068]. With respect to the swelling amount, it is elementary that the mere recitation of newly discovered function or property, inherently possessed by things in the prior art, does not cause a claim drawn to those things to distinguish over the prior art. *In re swinehart et al.*, 169 USPQ 226 at 229. Since the Landry-Coltrain reference teaches all of Applicant's claimed compositional and positional limitations, it is inherent that the reference article function in the same manner claimed by Applicant. The burden is upon Applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on.

8. Gallo and Landry-Coltrain are analogous art because they are from the same field of endeavor that is the ink jet recording art. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the base layer of Landry-Coltrain with the invention of Gallo in order to absorb the solvent from the ink ([0068] of Landry-Coltrain).

9. Claims 1, 3, 5-9, 11, 13 and 15-24, are rejected under 35 U.S.C. 103(a) as being unpatentable over Gallo et al. (US 2003/0107636 A1), as evidenced by Lawrence et al. (US 6,454,404 B1), in view of Tang et al. (US 6,632,485 B1).

10. Gallo discloses an ink jet recording element comprising a substrate and a porous image receiving layer of encapsulated organic particles and water insoluble polymeric

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particles (abstract). The encapsulated organic particles are equivalent to the claimed second type of hydrophobic polymer particles and the water insoluble polymeric particles are equivalent to the claimed first type of hydrophobic polymer particles. The Tg of the encapsulated organic polymers is less than 100 degree C [0030], and the particles are contained in the image receiving layer in an amount of up to 50% by wt of the image receiving layer [0050]. The particle size of the water insoluble polymeric particles is 10-500nm [0042], and the particles are contained in the image receiving layer in an amount of 5-30% by wt of the image receiving layer [0051]. Examples of the water insoluble polymeric particles are disclosed in US patent application ser. No. 09/770,128 [0037], which is now patented as Lawrence et al. US 6,454,404 B1. Lawrence discloses that the Tg of the water insoluble polymeric particles is 135-136 degree C (col. 8, line 32 of Lawrence). The thickness of the image receiving layer may range from 1-60um [0062]. The image receiving layer may comprise crosslinkers [0064], and UV absorbers [0065]. The substrate comprises paper or polymer film [0056]. The ink jet recording element further comprises a base layer [0054].

11. With respect to the pore volume, the experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. *In re Aller*, 105 USPQ 233. One of ordinary skill in the art would have been motivated to adjust the pore volume of the image receiving layer in order to optimize the ink-absorbing properties of the layer. A prima facie case of obviousness may be rebutted, however, where the results of the

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optimizing variable, which is known to be result-effective, are unexpectedly good. *In re Boesch and Slaney*, 205 USPQ 215.

12. Gallo does not teach that the base layer comprises gelatin as recited in the claimed invention.

13. Tang teaches an ink jet receiving medium comprising a base layer and a top layer, wherein the base layer comprises a crosslinked gelatin and a polyurethane dispersion (Table 5). The thickness of the base layer is 10um (col. 8, line 61). With respect to the swelling amount, it is elementary that the mere recitation of newly discovered function or property, inherently possessed by things in the prior art, does not cause a claim drawn to those things to distinguish over the prior art. *In re swinehart et al.*, 169 USPQ 226 at 229. Since the Tang reference teaches all of Applicant's claimed compositional and positional limitations, it is inherent that the reference article function in the same manner claimed by Applicant. The burden is upon Applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on.

14. With respect to the glass transition (Tg) value of the polyurethane dispersion, the experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. *In re Aller*, 105 USPQ 233. One of ordinary skill in the art would have been motivated to adjust the Tg value in order to improve the flexibility of the layer (col. 4, line 47). A prima facie case of obviousness may be rebutted, however, where the results of the optimizing variable, which is known to be result-effective, are unexpectedly good. *In*

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re Boesch and Slaney, 205 USPQ 215. To date, this burden has not been sustained. Furthermore, with respect to the particle size of the polyurethane dispersion, one of ordinary skill in the art would have been motivated to adjust the particle size in order to optimize coating durability and absorption property of the layer.

15. Gallo and Tang are analogous art because they are from the same field of endeavor that is the ink jet recording medium art. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the base layer of the Tang with the invention of Gallo in order to reduce the curl and to absorb the majority of the ink (col. 6, line 5 of Tang).

Response to Arguments

16. Applicant's argument is based on that the particles of Gallo are actually crosslinked which would prevent fusing and hence not be used for fusible particles. This argument is not persuasive for the following reason. The claimed fusible porous image receiving layer contains crosslinking material (see instant claim 19). Similarly, the image receiving layer of Gallo contains crosslinkers [0064]. Thus the components contained in the image receiving layer of Gallo are substantially identical to the claimed components contained in the image receiving layer of the claimed invention. Furthermore, the Examiner did not try to show the Tg of the claimed first type polymeric particles are optimizable. The Tg of the first type particles and the Tg of second type particles are taught by the references. Gallo and Lawrence teach the Tg of the encapsulated organic particles is less than 100 degree C {meets the claimed Tg of less

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than 25 degree C}, and the Tg of the water insoluble polymeric particles is 135-136 degree C {meets the claimed Tg of greater than 60 degree C}. In addition, the particle size in the reference of Gallo ranges from 10-500nm [0042], which overlaps with the claimed range of 0.2-2um {200-2000nm}.

17. Applicant further argued that Landry-Coltrain teaches highly swellable polymer such as gelatin, and the thrust of the present invention is to not use highly swellable gelatin or other such polymer. This argument is not persuasive for the following reason. The term "highly swellable" is not defined in the reference of Landry-Coltrain in any manner, and the term does not have a well defined meaning in the art. For example, relative to non-swellable layer, swelling 0.67 of its original weight could be "high". In Applicant's Remarks, it has been indicated that "Applicants reaffirm that the gelatin layer of Kodak Inkjet Photopaper is much more swellable than the gelatin layer of the presently claimed invention"; however, the requested factual evidence has never been provided.

18. Applicant also argued that Landry-Coltrain does not involve fusible particles in a fusible, porous image receiving layer. This argument is not persuasive because the reference is used to teach the claimed transparent non-porous layer, not to teach the claimed fusible porous image receiving layer.

19. Applicant argued that Tang is also not directed to a fusible image receiving layer, but rather teaches a non-porous ink jet recording top layer; and the reference teaches highly swellable gelatin. This argument is not persuasive for the following reason. Tang is introduced to teach the claimed transparent non-porous layer, not the claimed fusible

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porous image receiving layer. The term "highly swellable" is not defined in the reference of Tang in any manner, and the term does not have a well defined meaning in the art. For example, relative to non-swellable layer, swelling 0.67 of its original weight could be "high".

20. For the above reason claims 1, 3, 5-9, 11, 13 and 15-24 stand rejected.

Conclusion

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betelhem Shewareged whose telephone number is (571)272-1529. The examiner can normally be reached on Monday-Friday 9am-5pm.

22. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

23. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BS
July 9, 2007.

